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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,897	12/02/2003	Jeffrey S. Kuskin	062986.0297	3375

5073 7590 09/08/2004

BAKER BOTTS L.L.P.
2001 ROSS AVENUE
SUITE 600
DALLAS, TX 75201-2980

EXAMINER

BAKER, PAUL A

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/725,897	Applicant(s) KUSKIN ET AL.	
	Examiner Paul A Baker	Art Unit 2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) ° | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02 December 2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 02 December 2003 has been entered.

Specification

The disclosure is objected to because of the following informalities: Page 13, line 20 Application number of copending case "Method and System for Efficient Use of a Multi-Dimensional Sharing Vector in a Computer System" needs to be provided.

Page 43 line 9 the Front side bus processor interface is element 24, not 22.

Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

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patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 8, 9, 19 and 20 are rejected under the judicially created doctrine of double patenting over claim 1 of U. S. Patent No. 6,678,798 ('798) since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent. The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: All further limitations presented in the instant application are merely a subset of '798.

"Generally, an obviousness-type double patenting analysis entails two steps. First, as a matter of law, a court construes the claim in the earlier patent and the claim in the later patent and determines the differences. Georgia-Pacific Corp. v. United States Gypsum Co., 195 F.3d 1322, 1326, 52 USPQ2d 1590, 1593 (Fed. Cir. 1999). Second, the court determines whether the differences in subject matter between the two claims render the claims patentably distinct. Id. at 1327, 52 USPQ2d at 1595. A later claim that is not patentably distinct from an earlier claim in a commonly owned patent is invalid for obvious-type double patenting. In re Berg, 140 F.3d 1428, 1431, 46 USPQ2d 1226, 1229 (Fed. Cir. 1998). A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or anticipated by, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art

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patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). “ ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

Georgia-Pacific Corp. v. United States Gypsum Co., 195 F.3d 1322, 1326, 52 USPQ2d 1590, 1593 (Fed. Cir. 1999) states that limitations which are a subset of another patent are not patentably distinct. A “single read request” is a subset of all read requests. “According to the single read request...” is a subset of a response to all potential stimuli. “In response to whether or not the data is located...” in view of the other claim limitations and specification is a subset of “In response to the data being located...”. In the parent case ‘798 the data is provided always as a response to the data being located locally, “whether or not” as used in claim 1 and 19 is a tautological conditional, which further limits the parent by introducing a conditional, but because the conditional is tautological in nature this limitation is subset of the parent.

The limitation “the home memory being either remote or associated with the plurality of processors on the local bus according to a location of the data” is inherent, the location of the data being requested must either be remote or local, since there is no other option for the data locality this claim limitation is inherent to claim 1 of ‘798.

In regards to claim 1 of the instant application the removal of claim limitations specified in lines 14-19 of claim 1 of '798, would have been obvious to one of ordinary skill in the art at the time of invention.

In regards to claim 8 of the instant application, the claim limitations presented are identical to claim 1 lines 14-17 of '798.

In regards to claim 9 of the instant application, the claim limitations presented are identical to claim 1 lines 18-19 of '798.

In regards to claim 20 of the instant application, the claim limitations presented are identical to claim 1 lines 14-19 of '798.

Claim 11 is rejected under the judicially created doctrine of double patenting over claim 3 of U. S. Patent No. 6,678,798 ('798) since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: All further limitations presented in the instant application are merely a subset of '798.

The paragraph of case law recited in the double patenting rejection of claims 1, 8, 9, 19 and 20 is incorporated herein by reference.

Georgia-Pacific Corp. v. United States Gypsum Co., 195 F.3d 1322, 1326, 52 USPQ2d 1590, 1593 (Fed. Cir. 1999) states that limitations which are a subset of another patent are not patentably distinct. A "single read request" is a subset of all read

requests. "In response to the single read request..." is a subset of a response to all potential stimuli. "whether or not the data is available..." in view of the other claim limitations and specification is a subset of "the data being available...". In the parent case '798 the data is provided always as a response to the data being located locally, "whether or not" as used in claim 11 is a tautological conditional, which further limits the parent by introducing a conditional, but because the conditional is tautological in nature this limitation is subset of the parent.

The limitation "the home memory being either remote or associated with the plurality of processors on the local bus according to a location of the data" is inherent, the location of the data being requested must either be remote or local, since there is no other option for the data locality this claim limitation is inherent to claim 3 of '798.

In regards to claim 11, the removal of claim limitations specified in lines 15-19 of claim 3 of '798, would have been obvious to one of ordinary skill in the art at the time of invention.

In regards to claim 16 of the instant application, the claim limitations presented are identical to claim 3 lines 15-17 of '798.

In regards to claim 17 of the instant application, the claim limitations presented are identical to claim 3 lines 18-19 of '798.

Claim 10 is rejected under the judicially created doctrine of double patenting over claim 2 of U. S. Patent No. 6,678,798 ('798) since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: The claim limitations presented in claim 10 of the instant application are identical to claim 2 of '798. Since the base and all intervening claims have been rejected under the judicially created doctrine of double patenting, claim 10 of the instant application is also rejected under double patenting.

Claim 18 is rejected under the judicially created doctrine of double patenting over claim 4 of U. S. Patent No. 6,678,798 ('798) since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: The claim limitations presented in claim 18 of the instant application are identical to claim 4 of '798. Since the base and all intervening claims have been rejected under the judicially created doctrine of double patenting, claim 18 of the instant application is also rejected under double patenting.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the

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treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-8, 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Baumgartner et al. US 6,338,122.

In regards to claim 1, Baumgartner discloses a method for reducing memory latency during read requests, comprising:

issuing a single read request for data from a first one of a plurality of processors on a local bus (column 8 lines 3 - 4);

forwarding the single read request to a memory directory associated with a home memory for the data (column 8 lines 4 - 5), the home location for the data being either remote from or associated with the plurality of processors on the local bus is inherent, the location of the data being requested must either be remote or local, since there is no other option for the data locality this claim limitation is inherent to

Baumgartner;

determining whether the data is located at another one of the plurality of processors on the local bus (column 7 lines 21 - 29);

determining whether the data has been modified (Column 8 lines 40 - 44);

providing the data to the first one of the plurality of processors according to the single read request in response to whether or not the data is located in another

one of the plurality of processors on the local bus and data is modified (Column 10 lines 12 - 15).

A further explanation of the use of Baumgartner to reject applicant's claims under 35 USC §102 is warranted since examiner's current interpretation of Baumgartner when contrasted with applicant's disclosed invention has changed slightly since its application in the parent case. In the parent case, applicant's position was that Baumgartner's element 88 of Figure 3a (wherein the requesting processor is directed to reissue the same read request in order to obtain the data in the instance where the home node for the requested data is the local node, but a remote node has a modified copy of the data) does not teach applicant's claim limitation of a single read request. Upon careful examination of applicant's specification, there are two instances in which more than one read request is generated. The first is when there are conflicting local requests pending as disclosed in table IV on page 18, and the second is when the doomed field is set in a response on page 16 lines 23-25. Since applicant's invention has modes of operation that generate a single read request, the claims as presently disclosed do not violate 35 USC §112 1st paragraph (It is under this same single read request mode that Baumgartner anticipates applicant's disclosed invention). Further limiting the invention into which no originally single read request can result in multiple read requests will be considered a violation of 35 USC §112 1st paragraph on the basis of applicant's two disclosed exceptions.

In regards to claim 2, Baumgartner discloses processing the single read request at the memory directory (column 10 lines 64 - 68); transferring a read response according to processing of the single read request (column 7 lines 16 - 20);

In regards to claim 3, Baumgartner discloses providing the read response to the first one of the plurality of processors in response to the data not being found on any of the plurality of processors or if the data has not been modified (Figure 3a element 144).

In regards to claim 4, Baumgartner discloses discarding the single read request in response to the data being provided by another one of the plurality of processors so that it is not transferred to the first one of the plurality of processors in Figure 3a element 114.

In regards to claim 5, Baumgartner discloses determining whether a remote processor has the data in a modified form (in figure 3a element 130);

obtaining the data from the remote processor in response to it having the data in a modified form (in figure 3a element 122);

providing the modified data in the read response (in figure 3a element 112).

In regards to claim 6, Baumgartner discloses:

processing the single read request at the memory directory (column 10 lines 64 – 68);

transferring a read response according to processing of the single read request prior to determining whether the data is located at another one of the plurality of processors on the local bus and determining whether the data has been modified waiting for the determination of whether the data is located at another one of the plurality of processors on the local bus and that the data has been modified (figure 3a element 100).

In regards to claim 7, Baumgartner discloses:

providing the read response to the first one of the plurality of processors in response to the data not being found on any of the plurality of processors or if the data has not been modified (figure 3a element 144).

In regards to claim 8, Baumgartner discloses:

initiating an update to memory request in response to receiving the data at the first one of the plurality of processors, the update to memory request indicating that a read request is outstanding (figure 3a element 126).

In regards to claim 11, Baumgartner discloses a system for reducing memory latency during read requests, comprising:

a plurality of processors on a local bus, a first one of the plurality of processors operable to issue a single read request for data (figure 1 elements 10a – 10m);

a processor interface operable to receive the single read request (figure 1 element 20), the processor interface operable to route the single read request to a home location for the data (figure 3a element 78), the home location for the data being either remote from or associated with the plurality of processors on the local bus is inherent, the location of the data being requested must either be remote or local, since there is no other option for the data locality this claim limitation is inherent to Baumgartner, the processor interface operable to determine whether the data is located in another one of the plurality of processors and whether it has been modified (figure 3a element 120), the processor interface operable to provide the data to the first one of the plurality of processors in response to the single read request whether or not the data is available locally and being modified (figure 3a element 122 and 90).

In regards to claim 12, Baumgartner discloses a memory directory associated with a home location of the data, the memory directory operable to process the single read request (figure 2 element 50).

In regards to claim 13, Baumgartner discloses the memory directory generates a read response according to the single read request for transfer to the processor interface (column 9 lines 22 – 25).

In regards to claim 14, Baumgartner discloses the processor interface receives the read response, the processor interface operable to determine whether the data has been locally provided to the first one of the plurality of processors, the processor interface operable to discard the read response in accordance with the data being locally provided (Figure 3a element 114).

In regards to claim 15, Baumgartner discloses the processor interface receives the read response, the processor interface operable to determine whether the data has been locally provided to the first one of the plurality of processors, the processor interface operable to provide the read response to the first one of the plurality of processors in accordance with the data not being locally provided (in figure 3a element 90).

In regards to claim 16, Baumgartner discloses the first one of the plurality of processors is operable to generate an update to memory request in response to locally receiving the data, the update to memory request including an indication that the single read request is outstanding (figure 3a element 126).

In regards to claim 19, Baumgartner discloses a system for reducing memory latency during read requests, comprising:

means for issuing a single read request for data from a first one of a plurality of processors on a local bus (column 8 lines 3 – 4);

means for forwarding the single read request to a memory directory associated with a home memory for the data (column 8 lines 4 - 5), the home memory being either remote from or associated with the plurality of processors on the local bus according to a location of the data is inherent, the location of the data being requested must either be remote or local, since there is no other option for the data locality this claim limitation is inherent to Baumgartner;

means for determining whether the data is located at another one of the plurality of processors on the local bus (column 7 lines 21 – 29);

means for determining whether the data has been modified (column 8 lines 40 - 44);

means for providing the data to the first one of the plurality of processors according to the single read request in response to whether or not the data is located in another one of the plurality of processors on the local bus and the data is modified (column 10 lines 12 - 15).

Allowable Subject Matter

Claims 9, 10, 17, 18 and 20 would be allowable by filing a terminal disclaimer in accordance with 37 CFR 1.321(c) to overcome the rejection(s) under double patenting and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A Baker whose telephone number is (703)305-3304. The examiner can normally be reached on M-F 10am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (703)306-2903. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PB

Mano Padmanabhan
9/3/04

**MANO PADMANABHAN
SUPERVISORY PATENT EXAMINER**